

FORM PTO-1449
(Rev. 2-32)

U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.

00-713417

Serial No.

09/976,968

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(Use several sheets if necessary)



Applicant:

Chad A. Mirkin, et al.

Filing Date:

October 12, 2001

Group:

1637

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
AK	1.	5,830,986	11/03/98	Merrill, et al.	528	332	10/28/96
	2.	5,900,481	05/04/99	Lough, et al.	536	55.3	11/06/96
	3.	6,203,989	03/20/01	Goldberg, et al.	435	6	03/25/99
	4.	6,251,303	06/26/01	Bawendi, et al.	252	301.4R	09/18/98
	5.	6,277,489	08/21/01	Abbott, et al.	428	403	12/04/98
	6.	6,306,610	10/23/01	Bawendi, et al.	435	7.1	09/17/99
	7.	6,361,944	03/26/02	Mirkin, et al.	435	6	06/25/99
	8.	6,365,418	04/02/02	Wagner, et al.	436	518	05/18/00
AK	9.	6,417,340	07/09/02	Mirkin, et al.	536	23.1	10/20/00

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							Yes	No
AK	10.	WO 93/25709	23 December 1993	PCT				
	11.	WO 98/04740	5 February 1998	PCT				
	12.	WO 98/17317	30 April 1998	PCT				
	13.	WO 99/60169	25 November 1999	PCT				
	14.	WO 00/33079	8 June 2002	PCT				
AK	15.	WO 01/00876	4 January 2001	PCT				

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9	16. WO 01/51665	19 July 2001	PCT			
	17. WO 01/73123	4 October 2001	PCT			
	18. WO 01/86301	15 November 2001	PCT			
	19. WO 02/04681	17 January 2002	PCT			
	20. WO 02/18643	7 March 2002	PCT			
	21. WO 02/36169	10 May 2002	PCT			
	22. WO 02/46483	13 June 2002	PCT			
11	23. WO 02/46472	13 June 2002	PCT			

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9	24.	Letsinger, R., et al., "Chemistry of Oligonucleotide-Gold Nanoparticle Conjugates," <i>Phosphorus, Sulfur and Silicon</i> , Volume 144, p. 359-362 (1999)
11	25.	Letsinger, R., et al., "Use of a Steroid Cyclic Disulfide Anchor in Constructing Gold Nanoparticle-Oligonucleotide Conjugates," <i>Bioconjugate Chem.</i> , p. 289-291 (2000)

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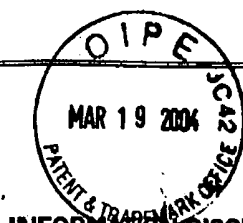
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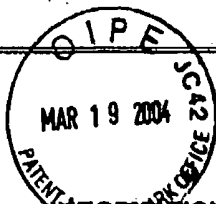
26.	Li Z., et al., "Multiple thiol-anchor capped DNA-gold nanoparticle conjugates," <i>Nucleic Acids Research</i> , Volume 30, p. 1558-1562 (2002)
27.	Nuzzo R., et al., "Spontaneously Organized Molecular Assemblies. 3. Preparation and Properties of Solution Adsorbed Monolayers of Organic Disulfides on Gold Surfaces," <i>J. Am Chem. Soc.</i> , Volume 109, p. 2358-2368 (1987)
28.	Otsuka, H., et al., "Quantitative and Reversible Lectin-Induced Association of Gold Nanoparticles Modified with [Lactosyl]-mercapto-poly(ethyleneglycol)," <i>J. Am Chem. Soc.</i> , Volume 123, p. 8226-8230 (2001)
29.	Wuelfing, P., et al., "Nanometer Gold Clusters Protected by Surface-Bound Monolayers of Thiolated Poly(ethylene glycol) Polymer Electrolyte," <i>J. Am Chem. Soc.</i> , Volume 120, p. 12696-12697 (1998)

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00-713-177

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Applicant:

Chad A. Mirkin, et al.

Filing Date:

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Group:

1656

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
1.	5,599,668	02/04/97	Stimpson, et al.			
2.	5,990,479	11/23/99	Weiss, et al.			

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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

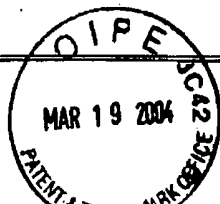
3.	Stimpson, et al., "Real-time detection of DNA hybridization and melting on oligonucleotide arrays by using optical wave guides," <i>Proc. Natl. Acad. Sci.</i> , Vol. 92, pp. 6379-6383, California Institute of Technology (1995) U.S.
4.	Storhoff, et al., "Strategies for Organizing Nanoparticles into Aggregate Structures and Functional Materials," <i>Journal of Cluster Science</i> , Vol. 8, No. 2, pp. 179-217, Plenum Publishing Corporation (1997) U.S.
5.	Storhoff, et al., "One-Pot Colorimetric Differentiation of Polynucleotides with Single Base Imperfections Using Gold Nanoparticle Probes," <i>J. Am. Chem. Soc.</i> , Vol. 120, pp. 1961-1964, American Chemical Society (1998) U.S.
6.	Velev, et al., "In Situ Assembly of Colloidal Particles into Miniaturized Biosensors," <i>Langmuir</i> , Vol. 15, No. 11, pp. 3693-3698, American Chemical Society (1999) U.S.
7.	Zhu, et al., "The First Raman Spectrum of an Organic Monolayer on a High-Temperature Superconductor: Direct Spectroscopic Evidence for a Chemical Interaction between an Amine and Yb ₂ Cu ₃ O _{7-δ} ," <i>J. Am. Chem. Soc.</i> , Vol. 119, pp. 235-236, American Chemical Society (1997) U.S.

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09/976,968

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Chad A. Mirkin, et al.

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FOREIGN PATENT DOCUMENTS

Document Number	Date	Country	Class	Subclass	Translation Yes No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

8.	Yguerabide, et al., "Light-Scattering Submicroscopic Particles as Highly Fluorescent Analogs and Their Use as Tracer Labels in Clinical and Biological Applications," I. Theory, <i>Analytical Biochemistry</i> , Vol. 262, pp. 137-156 (1998) U.S.
9.	Yguerabide, et al., "Light-Scattering Submicroscopic Particles as Highly Fluorescent Analogs and Their Use as Tracer Labels in Clinical and Biological Applications," II. Experimental Characterization, <i>Analytical Biochemistry</i> , Vol. 262, pp. 157-176 (1998) U.S.

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	1.	5,599,668	02/04/97	Stimpson, et al.			
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5.	Storhoff, et al., "One-Pot Colorimetric Differentiation of Polynucleotides with Single Base Imperfections Using Gold Nanoparticle Probes," <i>J. Am. Chem. Soc.</i> , Vol. 120, pp. 1961-1964, American Chemical Society (1998) U.S.
6.	Velev, et al., "In Situ Assembly of Colloidal Particles into Miniaturized Biosensors," <i>Langmuir</i> , Vol. 15, No. 11, pp. 3693-3698, American Chemical Society (1999) U.S.
7.	Zhu, et al., "The First Raman Spectrum of an Organic Monolayer on a High-Temperature Superconductor: Direct Spectroscopic Evidence for a Chemical Interaction between an Amine and $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$," <i>J. Am. Chem. Soc.</i> , Vol. 119, pp. 235-236, American Chemical Society (1997) U.S.

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	Applicant: Chad A. Mirkin, et al.	
	Filing Date: October 12, 2001	Group: 1656

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	5.	6,277,489	08/21/01	Abbott, et al.	428	403	12/04/98
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	10.	WO 93/25709	23 December 1993	PCT				
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	2.	5,508,164	04/16/96	Kausch, et al.	435	6	10/29/93
	3.	5,922,537	07/13/99	Ewart, et al.	435	6	11/8/96
	4.	5,972,615	10/26/99	An, et al.	435	6	01/21/98
	5.	6,264,825	07/24/01	Blackburn, et al.	205	777.5	06/23/99
	6.	6,214,560	04/10/01	Yguerabide, et al.	435	7.1	04/18/97

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	8.	WO 00/25136	05/04/00	PCT				

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	9.	Mohanty J., et al. "Pulsed laser excitation of phosphate stabilized silver nanoparticles," <i>Proc. Indian Acad. Sci.</i> , Vol. 112, No. 1, p. 63-72.
	10.	Nicewarner- Peña S., et al., "Hybridization and Enzymatic Extension of Au Nanoparticle-Bound Oligonucleotides," <i>J. Am. Chem. Soc.</i> , Vol. 124, p. 7314-7323 (2002)
	11.	Whitesides G.M., et al., "Soft Lithography in Biology and Biochemistry," <i>Annu. Rev. Biomed. Eng.</i> , p. 335-373 (2001)

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